

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**TENTATIVE RESOLUTION NO. R9-2004-0013**

**RECOMMENDATION TO THE  
STATE WATER RESOURCES CONTROL BOARD  
FOR THE ADOPTION OF AN EXCEPTION TO THE CALIFORNIA OCEAN PLAN  
FOR  
THE UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA**

**WHEREAS:**

1. The State Water Resources Control Board (State Board) adopted the 2001 California Ocean Plan (Ocean Plan) on November 16, 2000.
2. The Ocean Plan prohibits waste being discharged to ocean waters that are designated Areas of Special Biological Significance (ASBS).
3. ASBSs are those areas designated by the State Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.
4. The waters of the *San Diego Marine Life Refuge* and the *La Jolla Ecological Reserve* are designated ASBSs. The *San Diego Marine Life Refuge* and the *La Jolla Ecological Reserve* are contiguous Pacific Ocean areas adjoining the La Jolla neighborhood of the City of San Diego.
5. According to the Public Resources Code (PRC), Section 36750, as of January 1, 2003 all designated ASBSs are also State Water Quality Protection Areas (SWQPAs).
6. SWQPAs are defined in the PRC as nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality, including, but not limited to, ASBSs that have been designated by the State Board through the water quality control planning process.
7. The University of California, Scripps Institution of Oceanography (Scripps), discharges wastewater into the *San Diego Marine Life Refuge*. The wastewater consists of seawater that has been circulated through various aquariums (the Stephen Birch Aquarium as well as the institutions laboratory aquaria). At times, the wastewater commingles with storm water and urban runoff.
8. Scripps discharges wastewater to the *San Diego Marine Life Refuge* pursuant to Order No. 99-83, NPDES Permit No. CA0107239.

9. In 2002, the State Board determined that Scripps needed to request an Exception to the Ocean Plan Prohibition, *Section III.H.2*, to continue discharging into the *San Diego Marine Life Refuge*.
10. Exceptions to the Ocean Plan may be granted by the State Board if the Exception will (a) not compromise protection of ocean waters for beneficial uses and (b) the public interest will be served.
11. In a letter, dated November 22, 2002, Scripps requested an Exception to the Ocean Plan prohibition to continue discharging into the *San Diego Marine Life Refuge*. Included in the request was information in support of the Exception.
12. The request and supporting information submitted by Scripps is sufficient for State Board and Regional Board to determine that an Exception will not compromise protection of ocean waters for beneficial uses and that the public interest will be served.
13. The State Board intends to conduct a workshop regarding the Exception on July 7, 2004 and intends to consider adoption of the Exception to the Ocean Plan Prohibition, *Section III.H.2*, at its July 22, 2004 meeting.
14. This Resolution recommends that the State Board approve the Exception to the Ocean Plan Prohibition, *Section III.H.2*, for the University of California, Scripps Institution of Oceanography, La Jolla.

THEREFORE BE IT RESOLVED THAT:

1. The Regional Board recommends that the State Board approve the Exception to the 2001 California Ocean Plan Prohibition, *Section III.H.2*, for the University of California, Scripps Institution of Oceanography, La Jolla.
2. If the State Board conditions approval of the Exception that requires modifications to Order No. 99-83, NPDES Permit No. CA0107239, the Regional Board will, at a later Regional Board meeting, consider appropriate modifications to the Order.

*I, John H. Robertus, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, San Diego Region, on May 12, 2004.*

**TENTATIVE**

---

JOHN H. ROBERTUS  
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

REGIONAL BOARD REPORT  
(REVISED)  
FOR

**TENTATIVE RESOLUTION NO. R9-2004-0013**

RECOMMENDATION TO THE  
STATE WATER RESOURCES CONTROL BOARD  
FOR THE ADOPTION OF AN EXCEPTION TO THE CALIFORNIA  
OCEAN PLAN  
FOR  
THE UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA

**Date:** April 29, 2004  
**To:** John H. Robertus  
Executive Officer  
**From:** Sabine A. Knedlik  
Water Resource Control Engineer  
Industrial Compliance Unit

**TENTATIVE RESOLUTION NO. R9-2004-0013**

**TABLE OF CONTENTS**

<b>A.</b>	<b>SUMMARY.....</b>	<b>3</b>
<b>B.</b>	<b>BACKGROUND.....</b>	<b>4</b>
<b>C.</b>	<b>FACILITY DISCHARGE HISTORY.....</b>	<b>5</b>
<b>D.</b>	<b>ENVIRONMENTAL IMPACTS.....</b>	<b>6</b>
<b>E.</b>	<b>ALTERNATIVES TO THE EXCEPTION.....</b>	<b>6</b>
<b>F.</b>	<b>ENVIRONMENTAL BENEFITS.....</b>	<b>6</b>
<b>G.</b>	<b>STAFF RECOMMENDATION.....</b>	<b>7</b>

## A. SUMMARY

On November 22, 2002, the University of California, Scripps Institution of Oceanography (Scripps), submitted an application in request for an Exception to the 2001 California Ocean Plan (Ocean Plan). Ocean Plan Prohibition, *Section III.H.2*, states that waste shall not be discharged to Areas of Special Biological Significance (ASBS). Scripps is discharging wastewater into the *San Diego Marine Life Refuge*, which is a designated ASBS.

The Marine Managed Areas Improvement Act, AB 2800, was signed by the Governor on September 8, 2000. This law added sections to the Public Resources Code (PRC) that are relevant to ASBS. The PRC defines a SWQPA as a "nonterrestrial marine or estuarine area designated to protect marine species or biological communities from an undesirable alteration in natural water quality, including, but not limited to, areas of special biological significance that have been designated by the State Water Resources Control Board through its water quality control planning process." The re-classification of ASBS as SWQPA went into effect on January 1, 2003 (without Board action) pursuant to Section 36750 of the Public Resources Code.

*Section III.I.1* of the Ocean Plan states that the State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the U.S. Environmental Protection Agency, grant Exceptions to the Ocean Plan if the State Board determines that (a) the Exception will not compromise protection of ocean waters for beneficial uses, and (b) the public interest will be served.

The State Board has requested that all existing wastewater discharges to SWQPA be reviewed and considered for compliance with the Ocean Plan and AB 2800. In response, Scripps, San Diego Region's only regulated point source discharge into a SWQPA, has applied for an Exception to the Ocean Plan.

Scripps' application and additional information was reviewed and found to be complete on November 26, 2003. The data and information submitted by Scripps to be considered for the Exception is sufficient for the State Board to determine that the Exception will not compromise protection of ocean waters for beneficial uses and that the public interest will be served. State Board staff determined that the existing data does not provide evidence that the discharge is causing a reduction of marine life nor that the discharge is compromising protection of ocean waters for beneficial uses.

A Resolution by the Regional Board is the appropriate way to inform the State Board that the Regional Board recommends the approval of the Ocean Plan Exception. The State Board intends conduct a workshop regarding the Exception on July 7, 2004 and intends to consider adoption of the Exception to the Ocean Plan Prohibition, *Section III.H.2*, at its July 22, 2004 meeting. If the Regional Board does not recommend the approval of the Exception, the Regional Board should direct the Executive Officer to request the State Board to postpone its consideration of the Exception.

## B. BACKGROUND

On March 21, 1974, the State Board, in Resolution No. 74-28, designated 31 "Areas of Special Biological Significance" (now called SWQPA) in ocean waters along the California coastline, including the *San Diego Marine Life Refuge* and the *San Diego La Jolla Ecological Reserve*. The State Board adopted the 2001 California Ocean Plan (Ocean Plan) on November 16, 2000. The Ocean Plan prohibits waste being discharged to ocean waters that are designated SWQPA.

The *San Diego Marine Life Refuge* and the *San Diego La Jolla Ecological Reserve* are contiguous Pacific Ocean areas adjoining the La Jolla neighborhood of the City of San Diego. The combined area of these two contiguous SWQPAs is approximately 541 acres. The *San Diego Marine Life Refuge* is approximately 88 acres and has about 0.6 miles of coastline. The *San Diego La Jolla Ecological Reserve* is approximately 453 acres and has about 1.7 miles of coastline.

There are 92 identified waste discharge points consisting of storm drain outlets from residential, commercial, municipal, and industrial areas, as well as non-point and point source discharges into the *San Diego Marine Life Refuge* and 184 identified waste discharge points into the *San Diego La Jolla Ecological Reserve*. The University of California, Scripps Institution of Oceanography (Scripps) discharges wastewater into the *San Diego Marine Life Refuge*, and is currently the only regulated point source discharge into a SWQPA in the San Diego Region.

Scripps is regulated under an NPDES permit to discharge seawater that has been circulated through various aquaria (Stephen Birch Aquarium as well as the institutions' laboratory aquaria). The discharge of wastewater from Scripps crosses the beach and at times commingles with stormwater and urban runoff.

Scripps has been discharging wastewater from its aquaria into the ocean since 1910. Scripps' first NPDES permit was Order No. 74-47, issued by the San Diego Regional Board on September 16, 1974. Finding No. 5 of the Order stated that the State Board designated the *La Jolla Ecological Reserve* as a SWQPA and that discharges into SWQPAs are prohibited if the natural water quality conditions could be altered by the discharge. It was incorrectly identified at the time that the discharge entered the *La Jolla San Diego Ecological Reserve*. The actual discharge flows into the *San Diego Marine Life Refuge*. Finding No. 13 of the Order states that the Regional Board made the finding that the discharge has not nor is not expected to alter the natural water quality conditions of the SWQPA.

The permit was re-issued in 1979, 1984, and 1994. The most recent permit, issued in 1999, is Order No. 99-83, NPDES Permit No. CA0107239.

Section III.1.1 of the Ocean Plan states that the State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant Exceptions to the Ocean Plan if the Board determines that (a) the Exception will not compromise protection of ocean waters for beneficial uses, and (b) the public interest will be served. For the current wastewater discharge to be in compliance with the 2001 California Ocean Plan the State Board must approve the Exception.

### C. FACILITY DISCHARGE HISTORY

Scripps has been discharging wastewater into the ocean in the vicinity of its pier at since 1910. The first Waste Discharge Requirements were issued by the Regional Board on September 30, 1969 (Order 69-R24). The current seawater intake system has a capacity to pump approximately 1 million gallons per day of seawater from the seaward end of the Scripps Pier. The water is filtered through two sand filters before it is pumped to two storage tanks. The water is pumped to several of Scripps' research laboratories and aquaria.

Scripps discharges wastewater through five outfalls, outfall 1, 2, 3, 4A, and 4B.

- Outfall 1: Discharges approximately 450,000 gallons per day of wastewater that has been circulated through the Stephen Birch Aquarium, National Marine Fisheries Aquarium, Hydraulic Laboratory, and Hubbs Hall.
- Outfall 2: Discharges approximately 2,000 gallons per day of wastewater from Scholander Hall aquaria.
- Outfall 3: Discharges approximately 210,000 gallons per day of wastewater from the Experimental Aquarium and the Ring Tank.
- Outfall 4A and 4B: Discharges approximately 50,000 gallons per day of wastewater. Outfall 4A discharges intake water and settling tank overflow while Outfall 4B discharges sand filter backwash water.

The wastewater from all outfalls is discharged onto the beach where it flows across the beach and into the *San Diego Marine Life Refuge*. Order No. 99-83 establishes an initial dilution ratio of 2:1 for the Scripps wastewater discharges into the surf zone. On June 17, 2003 receiving water samples were taken 0.25 mile offshore from Scripps seawater intake. The samples were analyzed for copper and resulted in an average copper background concentration of 2  $\mu\text{g/L}$ . The result coincides with the background copper seawater concentration stated in the Ocean Plan to calculate effluent limitations.

The wastewater from the aquaria has contained measurable concentrations of copper, which is derived from copper sulfate used as a treatment for disease control in the aquaria. Between 1994-2003, measurements of copper in the wastewater from Outfall 1 ranged from a high of 31  $\mu\text{g/L}$  to 4  $\mu\text{g/L}$  (daily maximum). Copper is known to be toxic to marine life. Those copper concentrations, at times, have resulted in excursion above the Ocean Plan's receiving water quality objectives.

The Stephen Birch Aquarium uses a variety of other additives, such as citric acid, formalin, and trichlorfon, which are eventually discharged. On September 23, 2003 a sample representing the daily maximum concentrations of these additives in the effluent, including copper at a concentration of approximately 10  $\mu\text{g/L}$ , was analyzed for toxicity. The sample was not acutely

toxic and the chronic toxicity NOEC (no observed effect concentration) was 100% for three different test species.

Storm water and non-storm water runoff have been, and continue to be, co-mingled with wastewater. Samples of storm water runoff, collected before entering the facility's stormwater system, ranged from 22 to 360  $\mu\text{g/L}$  for copper and from non-detect to 9 mg/L for oil and grease. The State Board will require Scripps to implement a Storm Water Management Plan on an accelerated schedule to prevent degradation of the SWQPA during storm events and to eliminate dry weather urban runoff from entering the *San Diego Marine Life Refuge*.

#### **D. ENVIRONMENTAL IMPACTS**

In 2003, AMEC Earth and Environmental, Inc. performed a marine biological survey in the vicinity of the Scripps discharges. The report stated that the survey could not and was not designed to determine any causal effect from the discharge, but to characterize the respective areas within a specific period of time. The report stated that many of the species that occur in the sandy intertidal and subtidal habitats have a high emigration and immigration rate, which contributes to the large amount of temporal and spatial irregularity. Given the results of the survey and taking into consideration the variability of the habitat, State Board staff determined that no absolute statements about impacts could be made. State Board staff, however, determined that the existing data does not provide evidence that the discharge is causing a reduction of marine life or that the discharge is compromising protection of ocean waters for beneficial uses. The State Board will consider additional monitoring on a regular basis, using consistent and sensitive techniques in order to better detect impacts to the area, as a condition when granting the Exception.

As a result of the environmental review associated with Scripps request for the Exception, the State Board will consider recommending to the Regional Board additional monitoring requirements for the existing NPDES permit as conditions for granting the Exception. The additional monitoring requirements will ensure that any environmental impacts that may arise will be detected and corrected immediately.

#### **E. ALTERNATIVES TO THE EXCEPTION**

If the State Board does not issue an Exception to the Ocean Plan prohibition, Scripps would be required to terminate the discharge of wastewater to the *San Diego Marine Life Refuge*.

#### **F. ENVIRONMENTAL BENEFITS**

Scripps Institute of Oceanography is a major marine science institution, providing education to oceanography students and opportunities and facilities for cutting edge oceanographic research, including research performed by or for government agencies. Much of the research and education performed at Scripps utilizes and is dependant on the flow-through seawater system. In addition, the Stephen Birch Aquarium is an important venue for public education regarding



marine biology and conservation. The Aquarium also depends on the use of the flow-through seawater system. While Scripps' seawater system does discharge wastewater into the *San Diego Marine Life Refuge*, the quality of that discharge may be controlled through the application of management practices and specific controls. It is in the public's best interest, especially with regard to marine environmental conservation and protection, to allow Scripps to continue to discharge within the confines of these specific conditions.

#### **G. RECOMMENDATION**

It is recommended that the Regional Board adopt tentative Resolution No. R9-2004-0013. State Board's granting of an Exception from the discharge prohibition to SWQPA in the Ocean Plan will not compromise the protection of ocean waters for beneficial uses and the public interest will be served.

The State Board's approval of the Ocean Plan Exception request will allow Scripps to continue its wastewater discharge into the *San Diego Marine Life Refuge*.

## **SUPPORTING DOCUMENT NO. 4**

### **COMMENTS FROM PETE MICHAEL STAFF ENVIRONMENTAL SCIENTIST**

A document presented to the Regional Board on May 12, 2004.  
This document represents comments and recommendations made by Pete Michael, Staff  
Environmental Scientist, Marine Waters Unit, to the Industrial Compliance Unit,  
dated April 1, 2004.

**Recommendation to the Industrial Compliance Unit:**

**The San Diego Region Should Encourage the  
State Board to Grant an Ocean Plan Exception to the  
Scripps Institution of Oceanography for Discharges to  
Areas of Special Biological Significance<sup>1</sup>**

April 1, 2004

**Recommendation**

1. The San Diego Regional Water Quality Control Board should recommend the State Water Resources Control Board issue an Exception to the 2001 California Ocean Plan for the Scripps Institution of Oceanography to allow discharges to Areas of Special Biological Significance (ASBS).
  - a. The Regional Board, in the reissuance of the NPDES Permit, due for adoption on November 10, 2004, should ensure that the University NPDES Permit and storm water plans contain receiving water monitoring to confirm that the Ocean Plan Exception is justified and to encourage the University to participate periodically in the long-term regional ambient monitoring program for the Southern California Bight.
  - b. The Regional Board should ensure that the University implements operational best management practices and designs and installs appropriate structures to prevent accidental releases of non-indigenous species.
  - c. The Regional Board should ensure that the University implements practices that reduce the amounts of antibiotics and chemicals discharged to the ocean.

**Summary**

The Scripps Institution of Oceanography at the University of California San Diego has provided information in support of an Exception to the 2001 California Ocean Plan to allow waste discharges from flows associated with storm runoff and aquarium flow-through seawater systems to be discharged to Areas of Special Biological Significance (ASBS). Flows from the Birch Aquarium and research aquaria contain waste materials contributed by feed, waste from the organisms themselves, and chemicals and antibiotics. Ocean receiving waters in the vicinity of the discharges are heavily protected from collection of marine plants and animals by the public and are preserved for the enjoyment of the public and for scientific research. The marine resource information provided by Scripps appears complete and is consistent with San Diego

---

<sup>1</sup> By Pete Michael of the Marine Waters Unit.

Regional Board observations. The Regional Board should agree that subject to conditions stated in the State Board's draft Staff Report, the issuance of the Exception will preserve the beneficial uses of ocean waters in the ASBS and that the Exception is in the interest of the people of California.

### Discussion

The Exception, if approved by the State Board, would result in new knowledge about waste treatment at a major ocean research and public education facility. The San Diego Regional Board must provide oversight and vigilance to assure that the measures Scripps intends to implement are carried through effectively and consistently. A probable overall result of approval of the Exception is that the University of California San Diego would establish, through adoption of a reissued NPDES Permit, best management practices for control of the use of antibiotics and chemicals and for the prevention of accidental releases of non-indigenous plants and animals to the ocean. The University's management programs may become models for other aquarium dischargers to ASBS and to other marine environments without ASBS designations.

The San Diego Regional Board has been active in recent years in seeking prevention of releases of non-indigenous species, specifically the accidental introduction of unicellular colonies of the green alga, *Caulerpa taxifolia*<sup>2</sup>. Hundreds of colonies of these plants have been detected in two southern California coastal lagoons after being discharged in aquarium waste. More than three million dollars of public funds and industry contributions have so far been spent to detect and eradicate *Caulerpa* since its detection in the San Diego and Santa Ana Regions in 2000. The appearance of *Caulerpa* in Agua Hedionda Lagoon in San Diego County and in Huntington Harbour in Orange County has required years of efforts by divers and has resulted in losses of recreational beneficial uses related to boating and fishing. A concern of the San Diego Regional Board is that if *Caulerpa* is not fully eradicated and marine resources are lost, that a federal agency could permanently close Aqua Hedionda Lagoon to water skiing and fishing and eliminate access by the five-unit Encina steam electric power plant that receives its cooling water from the Lagoon. In that case the power plant could be faced with the dilemma either of closing or of being required to obtain an expensive alternate source of cooling water.

A massive example of the effects of this non-indigenous alga on beneficial uses has been demonstrated in the Mediterranean Sea. A possible single discharge in 1984 from the Monaco Aquarium to the Mediterranean of a cool-water tolerant form of *Caulerpa*, possibly a mutant of a tropical form, has resulted in the loss of hundreds of square miles of native seaweed habitat in the Mediterranean and closure of diving sites, fishing grounds, and recreational boat anchorages. Monetary losses to commercial and recreational interests have been in the hundreds of millions of dollars in the Mediterranean. Many marine habitats on the four continents where the cool-water non-indigenous form of *Caulerpa* has become established, could realize similar fates.

---

<sup>2</sup> <http://www.swrcb.ca.gov/rwqcb9/>. Click on programs, seaweed eradication.

As the University of California follows through on its commitment to implement best management practices to control accidental releases of living materials and chemicals from Scripps aquaria, the University can evaluate the effectiveness of its practices and require its other marine research labs to provide similar protection to the Pacific Ocean. Based on the experiences of the University with other programs, such as the Scripps' scientific diving safety program, these high-quality programs often become models for academic, government, and private organizations. Should Scripps be successful in controlling releases of chemicals and non-indigenous species, the Scripps program could become standardized throughout California and the United States. Issuance of the Exception to Scripps could therefore result in benefits to the people of California and to the University beyond the economic benefit of allowing continued operation of seawater flow-through systems. In the long term, approval of the Exception to Scripps could result in better protection of beneficial uses than if no Exception were granted.

An implied obligation if the State Board were to issue the Exception is that the University would desire to document compliance through receiving water monitoring. However, because compliance monitoring may not use a randomized sampling or probabilistic approach, it could be difficult to assess the overall state of water quality and condition of marine beneficial uses with a high degree of confidence. For this reason it may be appropriate for the University also to participate actively in regional ambient monitoring projects, such as that of the Regional Marine Monitoring Program for the Southern California Bight sponsored by the Southern California Coastal Water Research Project (SCCWRP)<sup>3</sup>. This program was launched by SCCWRP in response to recommendations by the National Research Council (NRC) of the National Academy of Sciences. NRC noted that 95 percent of the ocean in the Bight was not addressed by compliance monitoring programs and that the condition of beneficial uses could not be measured. To date, three "do it yourself" periodic long-term sampling efforts under this regional program have occurred: the 1994 Pilot Program, Bight'98, and Bight'03. Sixty-two organizations participated in Bight'98, including the State Board and the three southern California coastal regional boards. The San Diego Regional Board should consider encouraging the University to participate periodically in this regional marine monitoring program to determine the status and trends of water quality and protection of beneficial uses. The next regional monitoring effort is expected to occur in 2008. Marine monitoring field and lab protocols are available at the SCCWRP website and are being developed and approved by the California Surface Water Ambient Monitoring Program (SWAMP)<sup>4</sup> at the State Board Division of Water Quality. To assure compatibility with other marine monitoring efforts, SWAMP sampling and analysis protocols should be followed.

---

<sup>3</sup> <http://www.sccwrp.org>. Click on regional monitoring.

<sup>4</sup> <http://www.swrcb.ca.gov/quality.html>.

## **SUPPORTING DOCUMENT NO. 5**

### **WRITTEN COMMENTS**

A document presented to the Regional Board on May 12, 2004.  
All written comments received prior to 5:00 pm on April 28, 2004,  
including comments from:

- a. University of California, Scripps Institution of Oceanography
- b. The Ocean Conservancy

UNIVERSITY OF CALIFORNIA, SAN DIEGO

UCSD

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

ENVIRONMENT, HEALTH, AND SAFETY, 0920  
TEL: (858) 534-3660  
FAX: (858) 534-7982

9500 GILMAN DRIVE  
LA JOLLA, CALIFORNIA 92093-0920

March 24, 2004

Sabine Knedlik  
Regional Water Quality Control Board, San Diego  
9174 Sky Park Court  
Suite 100  
San Diego, CA 92123-4340

SUBJECT: Comments on Tentative Resolution No. R9-2004-0013

Dear Ms. Knedlik:

Thank you for the opportunity to review and provide comments on the Regional Water Quality Control Board's Tentative Resolution No. R9-2004-0013 for Scripps Institution of Oceanography.

The attached comments are based on our review of the document dated March 12, 2004. Please contact me at (858) 534-1065 if I can clarify any of our comments or provide you with any additional information.

Sincerely,

A handwritten signature in dark ink, appearing to read "Larry Oberti".

Larry Oberti  
Environmental Affairs Manager

SAN DIEGO REGIONAL  
WATER QUALITY  
CONTROL BOARD  
2004 MAR 30 P 12:21

**UCSD COMMENTS TO SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD'S TENTATIVE RESOLUTION NO.  
R9-2004-0013 FOR SCRIPPS INSTITUTION OF OCEANOGRAPHY**

<b>NO.</b>	<b>SECTION OF REPORT</b>	<b>COMMENT</b>
<b>1</b>	Report for Tentative Resolution, Section C, Page 4	The Marine Biology Aquaria referred to in the description of Outfall #1 is now referred to as "Hubbs Hall." The description of Outfall 3 should include the Ring Tank discharge.
<b>2</b>	Report for Tentative Resolution, Section C, Page 5	<p>The data from 1994-1998 is outdated and not indicative of present operations that include procedures implemented during the current permit period. We believe the data from the current permit period is more representative of the discharge.</p> <p>During the period 1999-2003 measurements of copper in the effluent from SIO's Outfall 001 ranged from a high of 16 ug/L to a low of 4.32 ug/L. Taking into account the non-detects, the geometric mean copper concentration in the effluent was 9.10 ug/L and the mean was 9.56 ug/L.</p>
<b>3</b>	Report for Tentative Resolution, Section C, Page 5	It should be clarified that the storm water analytical results do not represent concentrations of constituents in SIO's effluent discharges at the outfalls. These samples were collected from run-off before entering SIO's stormwater system.



SLD 4/5/04

*Advocates for Wild, Healthy Oceans*

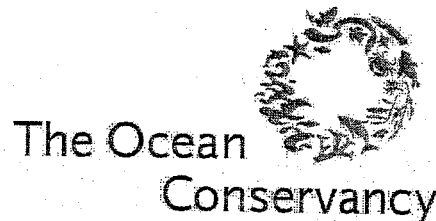
Pacific Regional Office  
116 New Montgomery St.  
Suite 810  
San Francisco, CA 94105

Formerly the Center for  
Marine Conservation

415.979.0900 Telephone  
415.979.0901 Facsimile  
[www.oceanconservancy.org](http://www.oceanconservancy.org)

March 29, 2004

John Minan, Chair  
San Diego Regional Water Quality Control Board  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123-4340



Re: Proposed Resolution to State Water Resources Control Board – University of California Scripps Institution of Oceanography, Consideration of Exception to the 2001 California Ocean Plan Exception (Tentative Resolution No. R9-2004-0013), Agenda Item 9.

Dear Chairman Minan and Members of the Board:

On behalf of The Ocean Conservancy and its more than 25,000 California members, I am submitting the following comments on the proposed Resolution regarding an Exception to the 2001 California Ocean Plan for the University of California Scripps Institution of Oceanography (Tentative Resolution No. R9-2004-0013). The exception should not be granted in the absence of additional information demonstrating that its discharges into the San Diego Marine Life Refuge will not compromise the protection of beneficial uses of this Area of Special Biological Significance (ASBS). Moreover, consideration of this exception should be part of a larger effort by the State and Regional Boards to ameliorate discharges into ASBS region- and statewide.

Illicit Discharges Into ASBS Must Be Eliminated Throughout the Region and State.

Areas of Special Biological Significance are the most pristine coastal waters in the state. The Ocean Plan defines “ASBS” as “those areas designated by the SWRCB as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.”<sup>1</sup> Protecting these areas is so critical to the people of California that “preservation and enhancement” of any ASBS is a beneficial use explicitly listed in the Ocean Plan,<sup>2</sup> as well as in several regional basin plans.<sup>3</sup> Protection of this beneficial use and prevention of alteration of natural water quality is accomplished in the only conceivable way, given the definition of “ASBS” – through an outright

<sup>1</sup> State Water Resources Control Board, “Water Quality Control Plan – Ocean Waters of California” (2001) at Appendix I (Ocean Plan).

<sup>2</sup> Ocean Plan at I.A.

<sup>3</sup> See, e.g. [http://www.swrcb.ca.gov/rwqcb3/BasinPlan/BP\\_text/Chapter2.htm](http://www.swrcb.ca.gov/rwqcb3/BasinPlan/BP_text/Chapter2.htm).

prohibition on discharge of waste. This provision of the Ocean Plan is abundantly clear: "Waste shall not be discharged to areas designated as being of special biological significance."<sup>4</sup>

In July of 2003, the Southern California Coastal Water Research Project (SCCWRP) released the results of a survey of discharges<sup>5</sup> into all 34 ASBS in California. The report, entitled "Discharges into State Water Quality Protection Areas," stated that there are 1,658 direct discharges into ASBS statewide.<sup>6</sup> These discharges were subdivided into wastewater discharge points (31 statewide), municipal/industrial storm drains (391 statewide), small storm drains (1012 statewide), and nonpoint sources (224 statewide).

This is an intolerable amount of discharge into areas that have been protected by an unequivocal prohibition against discharge of any kind. The existence of so many discharges is evidence of unwillingness on the part of the State and Regional Boards to enforce the discharge prohibition, and the Board must take responsibility for its role in allowing discharges into ASBS to continue unabated for so long.

The Ocean Conservancy urges the San Diego Regional Water Quality Control Board to address and remedy the discharges into ASBS within its jurisdiction. The Board should issue cease-and-desist orders for discharges into ASBS in cases where dischargers do not seek exceptions. Exceptions may be granted where the standard for such exceptions, discussed below, is met. However, the standard for exceptions should be strictly applied – an exception should not be used as a "quick fix" to legalize illicit discharges into ASBS.

#### This Exception May Compromise Protection of Ocean Waters For Beneficial Uses.

The State Board may grant an exception to the provisions of the Ocean Plan – including the ASBS discharge prohibition – if, after a public hearing, it determines that the exception "will not compromise protection of ocean waters for beneficial uses," and "the public interest will be served."<sup>7</sup> In the case of discharges into ASBS, the relevant beneficial use is "preservation and enhancement of designated Areas of Special Biological Significance."<sup>8</sup> Furthermore, the Ocean Plan provides the following criterion for attainment of this beneficial use: the maintenance of "natural water quality conditions."

As noted above, Scripps discharges wastewater pursuant to a National Pollutant Discharge Elimination System (NPDES) permit into the San Diego Marine Life Refuge. The wastewater is composed of seawater that has been circulated through various aquaria, picking up other substances along the way. Copper sulfate, which is used to treat disease in the aquaria, is present in Scripps'

---

<sup>4</sup> Ocean Plan at III.E.1. This prohibition applies to both point and nonpoint sources of waste, and the only explicit exception is for certified limited-term activities.

<sup>5</sup> Discharges were defined as non-natural sources. The total number of discharges reported above does not include outlets, which are defined as naturally occurring sources. Southern California Coastal Water Research Project, "Final Report: Discharges into State Water Quality Protection Areas" (July 2003), at 7-8 (SCCWRP Report).

<sup>6</sup> *Id.* at 7.

<sup>7</sup> State Water Resources Control Board, Water Quality Control Plan – Ocean Waters of California (California Ocean Plan 2001) at III.I.

<sup>8</sup> *Id.* at I.A.

wastewater in measurable concentrations. The Report on the proposed exception also notes that “[t]he Stephen Birch Aquarium uses a variety of other additives that are eventually discharged.”<sup>9</sup>

With respect to the discharge of copper, the report acknowledges that copper concentration in Scripps’ wastewater have, at times, been so high as to exceed the Ocean Plan’s receiving water quality objective. The report states that “Scripps is expecting to have a maximum copper concentration of less than [the receiving water objective],” but it is not clear what action Scripps will undertake to effect this change. Similarly, with respect to the other seawater additives, the report states that “a sample representative of daily maximum concentrations of these additives” was found not to be toxic to various test organisms, but never discloses what these substances are.

The report does not contain enough information to permit the public to determine whether the ASBS beneficial use would be threatened if this exception were granted. The proposed recommendation states that “[t]he request and supporting information submitted by Scripps is sufficient for State Board to determine that an exception will not compromise protection of ocean waters for beneficial uses and that the public interest will be served.”<sup>10</sup> If the Board is in possession of this information, it should release it in order to aid in the public’s review of this application. If the Board is not in possession of this information, it should decline to recommend approval of this exception and request that Scripps supplement its application. Scripps should either provide evidence that the standard for an exception is currently met, or propose mitigation measures that will result in the attainment of that standard as soon as possible.

#### The Report’s Discussion of Discharges of Stormwater and Non-Stormwater Waste Is Inadequate.

The report states:

Storm water and non-stormwater runoff have been, and continue to be, co-mingled with wastewater. Non-storm water runoff may be toxic to marine life. Collected storm water runoff at the facility ranged from 22 to 360 ug/L for copper and from non-detect to 9 mg/L for oil and grease.<sup>11</sup>

No additional information regarding the characteristics or composition of these discharges is provided.

The stormwater and non-stormwater runoff at issue here, while not point source discharge, is nonetheless discharge of waste into an ASBS and therefore prohibited under the Ocean Plan except in accordance with an exception. As noted above, an exception can only be granted if it would not compromise protection of beneficial uses of ocean waters. The stormwater at issue here is known to contain dangerous concentrations of copper and concentrations of oil and grease that are troubling. Whether or not these discharges cause excursions above the receiving water objectives for these components, if they could result in alteration of natural water quality conditions in the ASBS, they

<sup>9</sup> California Regional Water Quality Control Board San Diego Region, Report for Tentative Resolution No. R9-2004-0013: Recommendation to the State Water Resources Control Board for the Adoption of an Exception to the California Ocean Plan for the University of California Scripps Institution of Oceanography, La Jolla (Report) (March 12, 2004) at 5.

<sup>10</sup> California Regional Water Quality Control Board San Diego Region, Tentative Resolution No. R9-2004-0013: Recommendation to the State Water Resources Control Board for the Adoption of an Exception to the California Ocean Plan for the University of California Scripps Institution of Oceanography, La Jolla (April 14, 2004).

<sup>11</sup> Report at 5.

should be prohibited or mitigated. Furthermore, if this runoff is, in fact, toxic to marine life, its discharge is certainly not consistent with the ASBS beneficial use.

Unfortunately, close scrutiny is impossible given the paucity of information available. As noted above, the proposed resolution makes a finding that discharges will not compromise protection of beneficial uses, but it is unclear on what basis staff has reached that conclusion. If the Board is in possession of information that would allow it to determine that the ASBS beneficial use would be protected if this exception were granted, it should release this information for public review. If the Board is not in possession of such information, it should decline to recommend approval of this exception until Scripps produces evidence that its discharge is safe or develops additional mitigation and monitoring measures sufficient to ensure that the beneficial use will be protected.

Scripps Should Adopt Measures That Will Protect the ASBS.

There is much that Scripps can do that would mitigate or eliminate the effects of its discharge such that its discharge would no longer threaten the ASBS beneficial use. Scripps should be encouraged to take whatever steps are necessary to become strictly eligible for an exception.

The State and Regional Boards should take action to eliminate discharges into ASBS wherever possible, but should also work with dischargers to develop measures to eliminate the threats posed by discharge when necessary. Under no circumstances should the Boards grant exceptions because it is the simplest option or because a particular type of discharge is less harmful than other types of discharge. Only if the Boards are stalwart in their application of these standards will ASBS retain the high water quality necessary to support the important biological communities they contain.

\* \* \* \* \*

The Ocean Conservancy strongly urges the Board to reject the proposed resolution and to seek additional information and/or mitigation measures from Scripps. Thank you for the opportunity to provide these comments.

Sincerely,



Sarah G. Newkirk  
Pacific Region Ecosystems Manager

## **SUPPORTING DOCUMENT NO. 6**

### **PUBLIC NOTICE**

A document presented to the Regional Board on May 12, 2004.  
The release of the tentative Resolution on the May 12, 2004 Regional Board meeting was  
published in the San Diego Union Tribune on April 13, 2004.

# Affidavit of Publication

CALIFORNIA NEWSPAPER SERVICE

PO BOX 60460

LOS ANGELES, CA 90060-0460

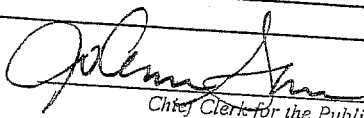
ATTN:

STATE OF CALIFORNIA} ss.  
County of San Diego}

The Undersigned, declares under penalty of perjury under the laws of the State of California: That....She is a resident of the County of San Diego. THAT....She is and at all times herein mentioned was a citizen of the United States, over the age of twenty-one years, and that .....She is not a party to, nor interested in the above entitled matter; that ....She is..... Chief Clerk for the publisher of .....

**The San Diego Union-Tribune** a newspaper of general circulation, printed and published daily in the City of San Diego, County of San Diego, and which newspaper is published for the dissemination of local news and intelligence of a general character, and which newspaper at all the times herein mentioned had and still has a bona fide subscription list of paying subscribers, and which newspaper has been established, printed and published at regular intervals in the said City of San Diego, County of San Diego, for a period exceeding one year next preceding the date of publication of the notice hereinafter referred to, and which newspaper is not devoted to nor published for the interests, entertainment or instruction of a particular class, profession, trade, calling, race, or denomination, or any number of same; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following date, to-wit:

APRIL 13, 2004

  
Chief Clerk for the Publisher

## Affidavit of Publication of

Legal Classified Advertisement

Ad # 8941952

Ordered by: EMAIL

### NOTICE OF PUBLIC HEARING CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN DIEGO REGION

Pursuant to the requirements of the National Pollution Discharge Elimination System (NPDES) permitting program for the discharge of wastewater to navigable waters, the California Regional Water Quality Control Board, San Diego Region (Regional Board) intends to consider the following actions:

Adoption of tentative Addendum No. 2 to Order No. R9-2002-0002; NPDES Permit No. CA0109363; Waste Discharge Requirements for U.S. Navy, Naval Base Point Loma, San Diego County.

Adoption of tentative Addendum No. 1 to Order No. R9-2003-0006; NPDES Permit No. CA0109185; Waste Discharge Requirements for U.S. Navy, Naval Base Coronado, San Diego County.

Adoption of tentative Resolution No. R9-2004-0013; Recommendation to the State Water Resources Control Board for the Adoption of an Exception to the 2001 California Ocean Plan for the University of California, Scripps Institution of Oceanography, La Jolla.

The Regional Board wishes to obtain information to assist in determining the proper requirements for the proposed actions. A public hearing will be held by the Regional Board to consider the proposed actions. The public hearing is scheduled to begin at 9:00 a.m. on Wednesday, May 12, 2004 at the following location:

City of Laguna Beach  
City Council Chambers  
505 Forest Avenue  
Laguna Beach, California

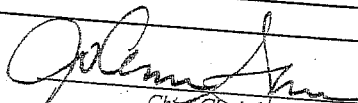
Interested persons are invited to attend to express their views on the above mentioned items. Oral statements will be heard, but for the accuracy of the record, all important testimony should be in writing. To ensure that the Regional Board has the opportunity to fully study and consider written material, comments should be received in the Regional Board's office no later than 5:00 P.M. on Wednesday, April 28, 2004. Written material submitted after 5:00 P.M. on Wednesday, May 5, 2004 will not be provided to the Regional Board members and will not be considered by the Regional Board. Presentations should be brief to allow all interested parties time to be heard.

Please contact Mr. Paul J. Richter at (858) 627-3929 or by email at: [richp@rb2.swrcb.ca.gov](mailto:richp@rb2.swrcb.ca.gov) for information regarding the issuance of tentative Addendum No. 2 to Order No. R9-2002-0002 and tent

was a citizen of the United States, over the age of twenty-one years, and that .....She is not a party to, nor interested in the above entitled matter; that ....She is..... Chief Clerk for the publisher of .....

The San Diego Union-Tribune  
a newspaper of general circulation, printed and published daily in the City of San Diego, County of San Diego, and which newspaper is published for the dissemination of local news and intelligence of a general character, and which newspaper at all the times herein mentioned had and still has a bona fide subscription list of paying subscribers, and which newspaper has been established, printed and published at regular intervals in the said City of San Diego, County of San Diego, for a period exceeding one year next preceding the date of publication of the notice hereinafter referred to, and which newspaper is not devoted to nor published for the interests, entertainment or instruction of a particular class, profession, trade, calling, race, or denomination, or any number of same; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following date, to-wit:

APRIL 13, 2004

  
Chief Clerk for the Publisher

## SAN DIEGO REGION

Pursuant to the requirements of the National Pollution Discharge Elimination System (NPDES) permitting program for the discharge of wastewater to navigable waters, the California Regional Water Quality Control Board, San Diego Region (Regional Board) intends to consider the following actions:

Adoption of tentative Addendum No. 2 to Order No. R9-2002-0002; NPDES Permit No. CA0109363; Waste Discharge Requirements for U.S. Navy, Naval Base Point Loma, San Diego County.

Adoption of tentative Addendum No. 1 to Order No. R9-2003-0008; NPDES Permit No. CA0109185; Waste Discharge Requirements for U.S. Navy, Naval Base Coronado, San Diego County.

Adoption of tentative Resolution No. R9-2004-0013; Recommendation to the State Water Resources Control Board for the Adoption of an Exception to the 2007 California Ocean Plan for the University of California; Scripps Institution of Oceanography, La Jolla.

The Regional Board wishes to obtain information to assist it in determining the proper requirements for the proposed actions. A public hearing will be held by the Regional Board to consider the proposed actions. The public hearing is scheduled to begin at 9:00 a.m. on Wednesday, May 12, 2004 at the following location:

City of Laguna Beach  
City Council Chambers  
505 Forest Avenue  
Laguna Beach, California

Interested persons are invited to attend to express their views on the above mentioned items. Oral statements will be heard, but for the accuracy of the record, all important testimony should be in writing. To ensure that the Regional Board has the opportunity to fully study and consider written material, comments should be received in the Regional Board's office no later than 5:00 P.M. on Wednesday, April 28, 2004. Written material submitted after 5:00 P.M. on Wednesday, May 5, 2004 will not be provided to the Regional Board members and will not be considered by the Regional Board. Presentations should be brief to allow all interested parties time to be heard.

Please contact Mr. Paul J. Richter at (858) 427-3929 or by email at: [richp@rb9.swrcb.ca.gov](mailto:richp@rb9.swrcb.ca.gov) for information regarding the issuance of tentative Addendum No. 2 to Order No. R9-2002-0002 and Tentative Addendum No. 1 to Order No. R9-2003-0008.

Please contact Ms. Sabine Knedlik at (858) 467-2725 or by email at: [kneds@rb9.swrcb.ca.gov](mailto:kneds@rb9.swrcb.ca.gov) for information regarding the issuance of tentative Resolution No. R9-2004-0013.

All documents, comments received, and other information related to the above mentioned items are on file and may be reviewed at the office of the Regional Board at 9174 Sky Park Court, Suite 100, San Diego, CA 92123, telephone (858) 467-2952, FAX (858) 571-6972, or the Internet Website at: [www.swrcb.ca.gov/rwqcb](http://www.swrcb.ca.gov/rwqcb).

Review of information and files can be conducted on the following dates and times: Monday, Tuesday, and Friday from 8:30 to 11:30 a.m., and Monday and Thursday from 1:30 to 4:30 p.m. Please bring the foregoing to the attention of any person known to you who would be interested in these matters.

JOHN H. ROBERTUS  
Executive Officer

April 12, 2004

04/13/04  
CNS-663186#  
The San Diego  
Union-Tribune

## **SUPPORTING DOCUMENT NO. 7**

### **TRANSMITTAL LETTER TO INTERESTED PARTIES (including REPORT ON TENTATIVE RESOLUTION, DATED MARCH 12, 2004)**

A document presented to the Regional Board on May 12, 2004.

The discharger and all known interested parties were notified of the release of the tentative Resolution on March 12, 2004. The Report on tentative Resolution, dated March 12, 2004, was revised and is included in this Agenda package as Supporting Document No. 3, Report on tentative Resolution, dated May 12, 2004.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

REPORT FOR

**TENTATIVE RESOLUTION NO. R9-2004-0013**

RECOMMENDATION TO THE  
STATE WATER RESOURCES CONTROL BOARD  
FOR THE ADOPTION OF AN EXCEPTION TO THE CALIFORNIA  
OCEAN PLAN  
FOR  
THE UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA

**Date:** March 12, 2004

**To:** John H. Robertus  
Executive Officer

**From:** Sabine A. Knedlik  
Water Resource Control Engineer  
Industrial Compliance Unit

**TENTATIVE RESOLUTION NO. R9-2004-0013**

**TABLE OF CONTENTS**

**A. SUMMARY.....3**

**B. BACKGROUND.....3**

**C. FACILITY DISCHARGE HISTORY.....4**

**D. ENVIRONMENTAL IMPACTS.....6**

**E. ALTERNATIVES TO THE EXCEPTION.....6**

**F. ENVIRONMENTAL BENEFITS.....6**

**G. STAFF RECOMMENDATION.....6**

## A. SUMMARY

On November 22, 2002, the University of California, Scripps Institution of Oceanography (Scripps), submitted an application in request for an exception to the 2001 California Ocean Plan (Ocean Plan). The Ocean Plan states that waste shall not be discharged to areas designated as being of special biological significance (ASBS). Scripps wastewater discharge is currently regulated under Order No. 99-83, NPDES Permit No. CA0107239.

*Section III.I.1* of the Ocean Plan states that the State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the U.S. Environmental Protection Agency, grant exceptions to the Ocean Plan if the Board determines that (a) the exception will not compromise protection of ocean waters for beneficial uses, and (b) the public interest will be served.

Scripps' application and additional information was reviewed by State Board and Regional Board and found to be complete on November 26, 2003. The data and information submitted by Scripps to be considered for the exception is sufficient for State Board to determine if the exception will not compromise protection of ocean waters for beneficial uses and if the public interest will be served. State Board intends to consider adoption of the exception to the Ocean Plan Prohibition, *Section III.H.2*, at its May 20, 2004 meeting.

A Resolution from the Regional Board recommending approval of the Ocean Plan exception is the appropriate way to inform the State Board.

## B. BACKGROUND

On March 21, 1974, the State Board, in Resolution No. 74-28, designated 31 "Areas of Special Biological Significance" in ocean waters along the California coastline, including the *San Diego Marine Life Refuge* and the *San Diego La Jolla Ecological Reserve*. The State Board adopted the 2001 California Ocean Plan (Ocean Plan) on November 16, 2000. The Ocean Plan prohibits waste being discharged to ocean waters that are designated ASBS.

The *San Diego Marine Life Refuge* and the *San Diego La Jolla Ecological Reserve* are contiguous Pacific Ocean areas adjoining the La Jolla neighborhood of the City of San Diego. The combined area of these two contiguous ASBSs is approximately 541 acres. The *San Diego Marine Life Refuge* is approximately 88 acres and has about 0.6 miles of coastline. The *San Diego La Jolla Ecological Reserve* is approximately 453 acres and has about 1.7 miles of coastline.

There are 92 identified waste discharge points (including storm drain outlets from residential, commercial, municipal, and industrial areas, as well as non-point and point source discharges) into the *San Diego Marine Life Refuge* and 184 identified waste discharge points into the *San Diego La Jolla Ecological Reserve*. The University of California, Scripps Institution of Oceanography (Scripps) discharges wastewater into the *San Diego Marine Life Refuge*, and is currently the only regulated point source discharge into an ASBS in Region 9.

Scripps is regulated under an NPDES permit to discharge seawater that has been circulated through various aquariums (Stephen Birch Aquarium as well as the institutions' laboratory aquaria). At times, the wastewater commingles with storm water and urban runoff.

Scripps' first NPDES permit was Order No. 74-47, issued by the San Diego Regional Board on September 16, 1974. Finding No. 5 of the Order stated that the State Board designated the *La Jolla Ecological Reserve* as an ASBS and that discharges into ASBSs are prohibited if the natural water quality conditions could be altered by the discharge. It was incorrectly identified at the time that the discharge entered the *La Jolla San Diego Ecological Reserve*. The actual discharge flows into the *San Diego Marine Life Refuge*. The Regional Board made the finding that the discharge would not alter the natural water quality conditions.

The permit was re-issued in 1979, 1984, and 1994. The most recent permit, issued in 1999, is Order No. 99-83, NPDES Permit No. CA0107239. The discharge is currently not in compliance with the 2001 California Ocean Plan since no exception from the State Board has yet been granted for the discharge to the *San Diego Marine Life Refuge*.

*Section III.I.1* of the Ocean Plan states that the State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions to the Ocean Plan if the Board determines that (a) the exception will not compromise protection of ocean waters for beneficial uses, and (b) the public interest will be served.

According to the Public Resources Code, Section 36750, as of January 1, 2003 all designated ASBS are also State Water Quality Protection Areas (SWQPA).

### **C. FACILITY DISCHARGE HISTORY**

Scripps has been discharging wastewater into the ocean in the vicinity of its pier at since 1910. The first Waste Discharge Requirements were issued by the Regional Board on September 30, 1969 (Order 69-R24). The current seawater intake system has a capacity to pump approximately 1 million gallons per day of seawater from the seaward end of the Scripps Pier. The water is filtered through two sand filters before it is pumped to two storage tanks. The water is pumped to several of Scripps' research laboratories and aquariums.

Scripps discharges wastewater through five outfalls, outfall 1, 2, 3, 4A, and 4B.

Outfall 1: Discharges approximately 450,000 gallons per day of wastewater that has been circulated through the Stephen Birch Aquarium, National Marine Fisheries Aquarium, Hydraulic Laboratory, and the Marine Biology Aquaria.

Outfall 2: Discharges approximately 2,000 gallons per day of wastewater from Scholander Hall aquaria.

- Outfall 3: Discharges approximately 210,000 gallons per day of wastewater from the Experimental Aquarium.
- Outfall 4A and 4B: Discharges approximately 50,000 gallons per day of wastewater. Outfall 4A discharges intake water and settling tank overflow while Outfall 4B discharges sand filter backwash water.

The wastewater from all outfalls is discharged onto the beach where it flows across the beach and into the *San Diego Marine Life Refuge*. Order No. 99-83 establishes an initial dilution ratio of 2:1 for the Scripps wastewater discharges into the surf zone. On June 17, 2003 receiving water samples were taken ¼ mile offshore from Scripps seawater intake. The samples were analyzed for copper and resulted in an average copper background concentration of 2 µg/L. The result coincides with the background copper seawater concentration stated in the Ocean Plan to calculate effluent limitations.

The wastewater from the aquariums has contained measurable concentrations of copper, which is derived from copper sulfate used as a treatment for disease control in the aquaria. Between 1994-1998, measurements of copper in the wastewater from Outfall 1 ranged from a high of 31 µg/L to below a detection limit of 10 µg/L. Copper is known to be toxic to marine life. In an unpublished analysis of this data, taking into account the non-detects, Saiz (2001) determined that the lognormal mean copper concentration in the wastewater was 15.2 µg/L and the mean was 16.6 µg/L. Those copper concentrations, at times, have resulted in excursion above the Ocean Plan's receiving water quality objectives.

Since that time, and in its review of practices while requesting this exception, Scripps is expecting to have a maximum copper concentration of less than 11 µg/L (daily maximum). The Stephen Birch Aquarium uses a variety of other additives that are eventually discharged. On September 23, 2003 a sample representative of daily maximum concentrations of these additives, including copper at a concentration of approximately 10 µg/L, was analyzed for toxicity. The sample was not acutely toxic and the chronic toxicity NOEC (no observed effect concentration) was 100% for three different species.

Storm water and non-storm water runoff have been, and continue to be, co-mingled with wastewater. Non-storm water runoff may be toxic to marine life. Collected storm water runoff at the facility ranged from 22 to 360 µg/L for copper and from non-detect to 9 mg/L for oil and grease.

The shoreline at the *San Diego Marine Life Refuge*, as well as in the contiguous *San Diego La Jolla Ecological Reserve*, was found to exceed water quality standards for bacterial indicators due to non-point and point sources (SWRCB 2003 303d List, Resolution 2003-0009). It is likely that storm drains in these two SWQPAs are discharging pollutants that cause elevated levels of bacteria.

#### **D. ENVIRONMENTAL IMPACTS**

In 2003, AMEC Earth and Environmental, Inc. performed a marine biological survey in the vicinity of the Scripps discharges. The report stated that the survey could not and was not designed to determine any causal effect from the discharge, but to characterize the respective areas within a specific period of time. The report stated that many of the species that occur in the sandy intertidal and subtidal habitats have a high emigration and immigration rate, which contributes to the large amount of temporal and spatial irregularity. Given the results of the survey and taking into consideration the variability of the habitat, there appears to be no affect on marine biological resources in the vicinity of the Scripps wastewater discharges.

Based on this information, it is assumed that the Scripps discharge is not causing a reduction of marine life. The available data does not support making a definitive statement that there are no water quality impacts from the Scripps discharge, since the reference stations used in the report were also under the influence of urban runoff.

#### **E. ALTERNATIVES TO THE EXCEPTION**

If the State Board does not issue an exception to the Ocean Plan prohibition, Scripps is required to terminate the discharge of wastewater to the *San Diego Marine Life Refuge*.

#### **F. ENVIRONMENTAL BENEFITS**

Scripps Institute of Oceanography is a major marine science institution, providing education to oceanography students and opportunities and facilities for cutting edge oceanographic research, including research performed by or for government agencies. Much of the research and education performed at Scripps utilizes and is dependant on the flow-through seawater system. In addition, the Stephen Birch Aquarium is an important venue for public education regarding marine biology and conservation. The Aquarium also depends on the use of the flow-through seawater system. While Scripps' seawater system does discharge wastewater into the *San Diego Marine Life Refuge*, the quality of that discharge may be controlled through the application of management practices and specific controls. It is in the publics' best interest, especially with regard to marine environmental conservation and protection, to allow Scripps to continue to discharge within the confines of these specific conditions.

#### **G. RECOMMENDATION**

It is recommended that the Regional Board adopt tentative Resolution No. R9-2004-0013. State Board's granting of an exception from the discharge prohibition to SWQPA in the Ocean Plan will not compromise the protection of ocean waters for beneficial uses and the public interest will be served.

The State Board's approval of the Ocean Plan exception request will allow Scripps to continue its wastewater discharge into the *San Diego Marine Life Refuge*.